In the Claims

This listing of claims replaces all prior versions and listings of claims:

1. (Currently Amended) A signal processing apparatus for receiving digital signals that are continuously related and input sequentially, performing a predetermined operation on each of sequentially input digital signals, and outputting a result of the operation, the signal processing apparatus comprising:

operation means for performing the predetermined operation on an input digital signal;

high-order part extraction means for extracting a necessary high-order part by rounding off a result of the operation performed by the operation means;

difference calculation means for calculating the difference between the result of the operation performed by the operation means and the high-order part extracted by the high-order part extraction means; and

feedback means for adding, to a next input digital signal, the difference value calculated by the difference calculation means or a value obtained by performing a predetermined operation on the difference value calculated by the difference calculation means,

wherein rounding off means rounding a value to a digit of an order which is higher than the lowest order digit of the value.

2. (Original) A signal processing apparatus according to claim 1, wherein when a second set of continuously-related digital signals is sequentially input after completion of inputting of a first set of continuously-related digital signals, a difference value obtained as a result of the difference calculation performed, by the difference calculation means, on the last digital signal of the first set of digital signals or a value obtained by performing the predetermined operation on the difference value calculated by the difference means is reset to 0 or added with a particular value, and the resultant value is added, via the feedback means, to the first digital signal of the second digital signals.

3.   (Original) A signal processing apparatus according to claim 1, wherein the feedback means adds, to the next input digital signal, a value obtained by multiplying the difference value calculated by the difference calculation means by a factor smaller than 1.

4.   (Original) A signal processing apparatus according to claim 1, wherein a digital signal acquired by means of oversampling is input to the operation means.

5-8.   (Cancelled)

9.   (Currently Amended)   A storage medium readable by a signal processing apparatus and storing computer-readable codes to manage the signal processing apparatus for receiving digital signals that are continuously related and input sequentially, performing a predetermined operation on each of sequentially input digital signals, and outputting a result of the operation, the computer-readable codes causing the signal processing apparatus to function as:

operation means for performing the predetermined operation on an input digital signal;

high-order part extraction means for extracting a necessary high-order part by rounding off a result of the operation performed by the operation means;

difference calculation means for calculating the difference between the result of the operation performed by the operation means and the high-order part extracted by the high-order part extraction means; and

feedback means for adding, to a next input digital signal, the difference value calculated by the difference calculation means or a value obtained by performing a predetermined operation on the difference value calculated by the difference calculation means,

wherein rounding off means rounding a value to a digit of an order which is higher than the lowest order digit of the value.

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10.   (Previously Amended)   The storage medium storing computer-readable codes to manage the signal processing apparatus according to claim 9, wherein the program causes the signal processing apparatus to also function as means for controlling the value fed back to the input digital signal such that when a second set of continuously-related digital signals is sequentially input after completion of inputting of a first set of continuously-related digital signals, a difference value obtained as a result of the difference calculation performed, by the difference calculation means, on the last digital signal of the first set of digital signals or a value obtained by performing the predetermined operation on the difference value calculated by the difference means is reset to 0 or added with a particular value, and the resultant value is added, via the feedback means, to the first digital signal of the second digital signals.

11.   (Previously Amended) The storage medium storing computer-readable codes to manage the signal processing apparatus according to claim 9, wherein the program causes the signal processing apparatus to also function as means for causing the feedback means to add, to the next input digital signal, a value obtained by multiplying the difference value calculated by the difference calculation means by a factor smaller than 1.

12.   (Previously Amended) The storage medium storing computer-readable codes to manage the signal processing apparatus according to claim 9, wherein the program causes the signal processing apparatus to also function as means for inputting a digital signal acquired by means of oversampling to the operation means.

13.   (Currently Amended) A method for causing a signal processing apparatus to be capable of receiving digital signals that are continuously related and input sequentially, performing a predetermined operation on each of sequentially input digital signals, and outputting a result of the operation, the method comprising:

an operation step of performing the predetermined operation on an input digital signal;

a high-order part extraction step of extracting a necessary high-order part by rounding off

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a result obtained in the operation step;

a difference calculation step of calculating the difference between the result obtained in the operation step and the high-order part extracted in the high-order part extraction step; and

a feedback step of adding, to a next input digital signal, the difference value calculated in the difference calculation step or a value obtained by performing a predetermined operation on the difference value calculated in the difference calculation step,

wherein rounding off means rounding a value to a digit of an order which is higher than the lowest order digit of the value.

14.   (Currently Amended) The signal processing apparatus according to claim 1, further comprising:

low-order part extraction means for extracting a necessary low-order part by rounding off the result of the operation performed by the operation means,

wherein rounding off means rounding a value to a digit of an order which is higher than the lowest order digit of the value.

15.   (Previously presented) The signal processing apparatus according to claim 14, wherein if a lower-order value output from the lower-order part extraction means is equal to or greater than a predetermined factor, the lower-order value is rounded up to a high-order value and added to an output of the high-order part extraction means.

16.   (Previously presented) The signal processing apparatus according to claim 1, wherein the rounding off a result of the operation performed by the operation means consists of rounding up if a rounded resultant is less than a predetermined figure.

17.   (Currently Amended) The signal processing apparatus according to claim 1, wherein the rounding off a result of the operation performed by the operation means consists of rounding ~~down~~ off if a rounded resultant is ~~greater~~ lower than a predetermined figure.

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18.   (New) The signal processing apparatus according to claim 1, wherein an error is produced during the rounding off and the error is capable of being input to one of the high-order part extraction means and a low-order part extraction means depending on a factor.

19.   (New) The signal processing apparatus according to claim 18, wherein if an error is equal to or greater than a factor, then the error is input to the high-order part extraction means, and if the error is less than the factor, then the error is input to a low-order part extraction means.

20.   (New) The signal processing apparatus according to claim 1, wherein an error is produced if the result is not rounded up and is calculated via the difference calculation means and added to a next input digital signal via the feedback means.